

Promoting Use and Advancing Quality of Epoxy-Coated Reinforcing Steel.

IN THIS ISSUE



Welcome

EIG is frequently asked about the effect of damage on epoxy-coated reinforcing steel and how this may affect performance. We know from extensive independent research that even when damage occurs to epoxy-coated reinforcing steel,

it still provides high performance and that perfectly coated bars are not required for long life. However, less damage on a coated bar lowers the risk of corrosion.

It is important that bars are fabricated and handled using the appropriate equipment that does not cause damage to the bars. This includes the use of either padded or nylon slings. At no time is steel cable or chain acceptable for lifting the bars.

When fabricating bars, it is important that the surfaces of the bending equipment are protected and that non-metallic bending mandrels are used. Any damage that occurs during fabrication should be repaired prior to shipping to the jobsite.

At the jobsite, bars should be lifted, not dragged, and they should be stored on appropriate wooden or padded dunnage. Once placed, the bars should be inspected; if the coating has been breached, repairs should be made using a two-part epoxy. However, if bars are appropriately stored and installed, there should be minimal repair required.

EIG has several publications that may be of value to those specifying and installing reinforcing steel. These include: *"Use and Installation of Epoxy-coated Reinforcing Bars"* and *"Guidelines for Inspection and Acceptance of Epoxy-Coated Reinforcing Steel at the Jobsite."* Please let EIG know if you would like hard copies at info@epoxy.crsi.org, or download them for free at www.epoxyinterestgroup.org.

Projects Using Epoxy-Coated Reinforcing Steel Wanted

EIG wants to feature your project in upcoming editions of Anti-Corrosion Times and our Project Gallery. All project types are welcome. Please send basic information on the project and information on how to access photography (construction and/or finished, all photo credits) to info@epoxy.crsi.org.

ARTICLES

- New Publications from the Epoxy Interest Group
- New Facebook Page
- Questions from the Field

PROJECTS

- Liberty Memorial Bridge
- U.S. 6 Bridge over Keg Creek
- Pioneer Crossing Interchange Bridges

CERTIFIED PLANTS

NEW EIG PUBLICATIONS

FOR INSPIRATION

"To be persuasive we must be believable; to be believable we must be credible; to be credible we must be truthful."

— Edward R. Murrow,
American broadcast journalist

Projects



Liberty Memorial Bridge

Bismarck, ND

In 2008, a new \$62 million bridge opened across the Missouri River in Bismarck, North Dakota. This bridge consists of 14 spans with 6 piers located in the Missouri River and spans 2370 ft. It provides a 285 ft vertical clearance for tall ships and carries approximately 15000 vehicles per day. Concrete used for the structure included epoxy-coated reinforcing steel.

MORE 

U.S. 6 Bridge over Keg Creek

Pottawattamie County, IA

In 2010, the Iowa DOT began work on a demonstration project involving Accelerated Bridge Construction (ABC). The U.S. 6 Bridge over Keg Creek in Pottawattamie County was chosen as the test site because it had features typical of other 3-span structures in Iowa and surrounding states. The structure was completely prefabricated off-site and was constructed using a steel and a precast concrete modular system that included epoxy-coated reinforcing steel.

MORE 



Pioneer Crossing Interchange Bridges

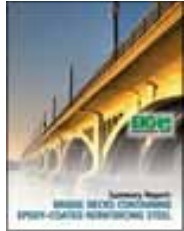
American Fork, UT

In 2008, a \$172 million project was initiated just south of Salt Lake City on I-15 as part of a 1-mile reconstruction project. The project is the third Diverting Diamond Interchange (DDI) in the U.S. These designs reduce the number of accidents that occur and reduce traffic congestion. Twin two-span prestressed concrete girder super-structures using epoxy-coated reinforcing steel were built off-location and moved into place using Accelerated Bridge Construction techniques (ABC). These were the largest multi-girder spans moved with Self-Propelled Modular Transporter's (SPMTs) in the U.S. to date.

MORE 

New Publication from the Epoxy Interest Group

The following document may be downloaded from www.epoxyinterestgroup.org or if you wish hard copies, please contact us at info@epoxyinterestgroup.org.



Summary Report: Bridge Decks Containing Epoxy-Coated Reinforcing Steel

In 2010, a report was prepared for the Michigan Department of Transportation on the expected service life of concrete bridge decks. This report concluded that decks with epoxy-coated reinforcing steel would provide a service life of 70 years and that the use of Markov transition probabilities is acceptable and accurate in analyzing bridge data. This document summarizes that report.

Epoxy Interest Group now on Facebook

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Questions from the Field

Question: *What improvements have been made to epoxy-coated reinforcing steel over the past 40 years?*

Answer: Epoxy-coated reinforcing was first used in 1973 and the first ASTM specification, ASTM A775/A775 M, was originally approved in 1981. Since then changes have been made to improve coating adhesion and damage resistance. The coating thickness has been substantially increased and the cleanliness and surface roughness prior to coating improved. These factors led to improved bonding of the coating to the steel. The product today is also more flexible, with the standards requiring 180 degree bends, compared with the less rigorous 120 degree bends originally required in the 1980s.

ASTM D3963 was also developed in 1981 to provide a specification for fabrication and field handling. Changes have been made to recommend that all damage in the field be repaired, compared with the 2 percent allowed prior to about 1990.

Editors' Note:

We hope that you find information in the newsletter useful. Please [contact us](#) if additional information is required.